

Application No. 10/669,580  
Response to Office Action

Customer No. 01933

**Listing of Claims:**

Claims 1-6 (Canceled).

7. (Currently Amended) A logarithmic graph plotting apparatus comprising:

a range setting unit for setting an x-coordinate range for a graph ranging from an arbitrary x-minimum value to an arbitrary x-maximum value, and a y-coordinate range for the graph ranging from an arbitrary y-minimum value to an arbitrary y-maximum value;

a logarithmic axis setting unit for selecting whether to set at least one of x- and y-axes as corresponding logarithmic x- and y-axes, whereby any axis that is not set to be logarithmic is set to be a linear axis;

an x-logarithmic scale number determining unit for determining a number of logarithmic scales for the x-axis, based on a number obtained by calculating a difference between a logarithm of the x-minimum value and a logarithm of the x-maximum value and converting the calculated difference to an integer;

an ~~x-logarithmic~~ x-axis scale plotting control unit for controlling plotting of logarithmic scales for the x-coordinate range such that the determined number of logarithmic scales for the x-coordinate range are plotted when the x-axis is selected to

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be set as the logarithmic x-axis, and such that no visible scales  
of any kind are plotted for the x-coordinate range when the x-  
axis is ~~not selected to be set as the logarithmic x-axis set to~~  
~~be linear and the y-axis is selected to be set as the logarithmic~~  
25 y-axis;

a y-logarithmic scale number determining unit for  
determining a number of logarithmic scales for the y-axis, based  
on a number obtained by calculating a difference between a  
logarithm of the y-minimum value and a logarithm of the y-maximum  
30 value and converting the calculated difference to an integer;

a ~~y-logarithmic~~ y-axis scale plotting control unit for  
controlling plotting of logarithmic scales for the y-coordinate  
range such that the determined number of logarithmic scales for  
the y-coordinate range are plotted when the y-axis is selected to  
35 be set as the logarithmic y-axis, and such that no visible scales  
of any kind are plotted for the y-coordinate range when the y-  
axis is ~~not selected to be set as the logarithmic y-axis set to~~  
~~be linear and the x-axis is selected to be set as the logarithmic~~  
x-axis; and

40 a logarithmic graph plotting control unit for plotting on a  
display screen a logarithmic graph corresponding to the plotted  
logarithmic scales corresponding to the selected at least one of  
the x- and y-axes when the at least one of the x- and y-axes is  
selected, and for plotting on the display screen an ordinary

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45 graph corresponding to the x- and y-axes when neither of the x-  
and y-axes is selected to be set as the corresponding logarithmic  
x- and y-axes.

8. (Previously Presented) The logarithmic graph plotting  
apparatus according to claim 7, wherein the range setting unit  
comprises a unit for displaying on the display screen a range  
setting image in which the x-minimum value and the x-maximum  
5 value of the x-coordinate range and the y-minimum value and the  
y-maximum value of the y-coordinate range are indicated;

wherein the logarithmic axis setting unit comprises a  
displaying unit for displaying on the display screen a  
logarithmic axis setting image including items for selecting  
10 whether to set each of the x- and y-axes as the corresponding  
logarithmic x- and y-axes; and

wherein the range setting image and the logarithmic axis  
setting image are displayed on the display screen in parallel.

9. (Previously Presented) The logarithmic graph plotting  
apparatus according to claim 8, further comprising a unit for  
indicating an error when at least one of the x- and y-axes is  
selected to be set as the corresponding logarithmic x- and y-axes  
5 in the logarithmic axis setting image, and when a value in the at  
least one of the x- and y-coordinate ranges corresponding to the

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selected at least one of the x- and y-axes is not positive in the range setting image.

10. (Previously Presented) The logarithmic graph plotting apparatus according to claim 7, wherein the logarithmic scales comprise a straight line extending from each of the logarithmic scales.

11. (Previously Presented) The logarithmic graph plotting apparatus according to claim 7, wherein the items in the logarithmic axis setting image for selecting whether to set each of the x- and y-axes as the corresponding logarithmic x- and y-axes comprise check boxes.

12. (Currently Amended) A computer-readable recording medium having a logarithmic graph plotting program stored thereon for controlling a computer of a graph plotting apparatus, the program causing the computer to function as:

5       a range setting unit for setting an x-coordinate range for a graph ranging from an arbitrary x-minimum value to an arbitrary x-maximum value, and a y-coordinate range for the graph ranging from an arbitrary y-minimum value to an arbitrary y-maximum value;

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10 a logarithmic axis setting unit for selecting whether to set  
at least one of x- and y-axes as corresponding logarithmic x- and  
y-axes, whereby any axis that is not set to be logarithmic is set  
to be a linear axis;

an x-logarithmic scale number determining unit for  
15 determining a number of logarithmic scales for the x-axis, based  
on a number obtained by calculating a difference between a  
logarithm of the x-minimum value and a logarithm of the x-maximum  
value and converting the calculated difference to an integer;

an ~~x-logarithmic~~ x-axis scale plotting control unit for  
20 controlling plotting of logarithmic scales for the x-coordinate  
range such that the determined number of logarithmic scales for  
the x-coordinate range are plotted when the x-axis is selected to  
be set as the logarithmic x-axis, and such that no visible scales  
of any kind are plotted for the x-coordinate range when the x-  
25 axis is ~~not selected to be set as the logarithmic x-axis~~ set to  
be linear and the y-axis is selected to be set as the logarithmic  
y-axis;

a y-logarithmic scale number determining unit for  
determining a number of logarithmic scales for the y-axis, based  
30 on a number obtained by calculating a difference between a  
logarithm of the y-minimum value and a logarithm of the y-maximum  
value and converting the calculated difference to an integer;

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a ~~y-logarithmic y-axis~~ scale plotting control unit for  
controlling plotting of logarithmic scales for the y-coordinate  
35 range such that the determined number of logarithmic scales for  
the y-coordinate range are plotted when the y-axis is selected to  
be set as the logarithmic y-axis, and such that no visible scales  
of any kind are plotted for the y-coordinate range when the y-  
axis is ~~not selected to be set as the logarithmic y axis set to~~  
40 be linear and the x-axis is selected to be set as the logarithmic  
x-axis; and

a ~~logarithmic~~ graph plotting control unit for plotting on a  
display screen a logarithmic graph corresponding to the plotted  
logarithmic scales corresponding to the selected at least one of  
45 the x- and y-axes when the at least one of the x- and y-axes is  
selected, and for plotting on the display screen an ordinary  
graph corresponding to the x- and y-axes when neither of the x-  
and y-axes is selected to be set as the corresponding logarithmic  
x- and y-axes.